

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-26. (canceled).

27. (currently amended): A method for diagnosing a bipolar disorder in a human patient, comprising:

(a) obtaining a ~~patient~~-ratio of

(i) the mean membrane potential of ~~fresh~~-cells of ~~the a test human~~ patient incubated *in vitro* in the presence of a compound that alters Na^+K^+ ATPase activity, but in the absence of K^+ , to

(ii) the mean membrane potential of ~~fresh~~-cells of the test human patient incubated *in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity, but in the presence of K^+ ; and

one or both of the following steps (b) and (c):

(b) comparing the ~~patient~~-ratio obtained in (a) to a control ratio, wherein the control ratio is the ratio of

(iii) the mean membrane potential of corresponding ~~fresh~~-control cells of one or more ~~people~~-humans known to not have said bipolar disorder incubated *in vitro* in the presence of a compound that alters Na^+K^+ ATPase activity, but in the absence of K^+ , to

- (iv) the mean membrane potential of corresponding ~~fresh~~-control cells of one or more ~~people~~-humans known to not have said bipolar disorder incubated *in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity, but in the presence of K^+ ,

wherein when significantly lower patient the ratio obtained in (a) is significantly lower than compared to the control ratio obtained in (b), said indicates that the test human patient is diagnosed as having has said bipolar disorder;

- (c) comparing the ~~patient~~-ratio obtained in (a) to a bipolar control ratio, wherein the bipolar control ratio is the ratio of

- (v) the mean membrane potential of corresponding ~~fresh~~-bipolar control cells of one or more ~~people~~-humans known to have said bipolar disorder incubated *in vitro* in the presence of a compound that alters Na^+K^+ ATPase activity, but in the absence of K^+ , to
- (vi) the mean membrane potential of corresponding ~~fresh~~-bipolar control cells of one or more ~~people~~-humans known to have said bipolar disorder incubated *in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity, but in the presence of K^+ ,

wherein when the lack of a significant difference between the patient-ratio obtained in (a) is not significantly different than compared to the bipolar control ratio obtained in (c), said indicates that the test human patient is

~~diagnosed as having said~~ bipolar disorder, ~~wherein said patient is a~~
~~human,~~

~~wherein the cells incubated *in vitro* in the presence of the compound that alters Na^+K^+~~
~~ATPase activity are incubated *in vitro* in the absence of K^+ , and wherein the cells incubated~~
~~*in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity are incubated *in vitro*~~
~~in the presence of K^+~~

wherein each mean membrane potential is determined by incubating the cells *in vitro* in
buffer comprising a potential-sensitive dye, resuspending the cells in potential-sensitive dye
free-buffer, and measuring cell fluorescence.

28.-30. (canceled).

31. (currently amended): The method according to claim 27, wherein the compound that alters Na^+K^+ ATPase activity is selected from the group consisting of: valinomycin, monensin, monensin decyl ester, ~~gramieidin~~, *p*-chloromercuribenzenesulfonate (PCMBs), veratridine, ethacrynate, dopamine, a catecholamine, a phorbol ester, ouabain, lithium, valproate, lamotrigine, cocaine, nicotine, R0-31-8220, oxymetazoline, calcineurin, topiramate, a peptide hormone, sorbitol, and a diuretic.

32. (original) The method according to claim 31, wherein the compound that alters Na^+K^+ ATPase activity is ethacrynate.

33.-44. (canceled).

45. (previously presented) The method of claim 27, wherein said bipolar disorder is bipolar I disorder.

46.-51. (canceled).